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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,382	11/14/2003	Aulis Perala	111075.01	9593

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OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

KIM, YOON YOUNG

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/712,382	PERALA, AULIS	
	Examiner	Art Unit	
	Yoon-Young Kim	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/986,422.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the Amendment filed on December 27, 2005.

Terminal Disclaimer

1. The terminal disclaimer filed on December 27, 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,719,148 B2 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on November 14, 2003 is being considered by the examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4, 7-9, and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Lumsden, U.S. Patent No. 3,716,138.

Regarding Claim 1, Lumsden discloses a solid-liquid separation filter cloth composed of a plurality of yarns (#65, 66) in the transverse and the longitudinal directions, the filter cloth

Art Unit: 1723

comprising a filtering portion having a structure and density according to desired filtering characteristics for separating liquid from a mixture consisting of solids and liquid, and which filter cloth is further to be arranged against a filtering element in a filtering apparatus (Col. 4, Lines 5-10), and an underside of the filter cloth comprises substantially parallel yarns that are thicker (#66) than the rest of the yarns of the cloth, and that the thicker yarns are placed at predetermined intervals defined by the other yarns of the filter cloth extending parallel thereto to provide desired parallel channels therebetween (Fig. 11).

Regarding Claim 4, Lumsden discloses that the thicker yarns (#66) in the underside of the filter cloth have the same direction as a weft.

Regarding Claim 7, Lumsden discloses a filtering module made of filter cloth comprising a filtering layer composed of yarns (#65, 66) in the transverse and the longitudinal directions, and an underside of the filter cloth is comprised of substantially parallel yarns (#66) that are thicker than the rest of the yarns of the cloth, and that the thicker yarns are placed at predetermined intervals defined by the other yarns of the filter cloth extending parallel thereto.

Regarding Claim 8, Lumsden discloses the filter cloth being arranged such that the channels formed in a bottom portion of the cloth are directed according to a structure of the filtering module (Fig. 11).

Regarding Claim 9, since the examiner has considered the claimed invention in independent Claim 7 being that only of the subcombination of a filtering module comprising of a filter cloth and does not include limitations of the filtering element, it is unclear if applicant is adding the limitation of a filtering element in this claim. For examination purposes, the examiner considered that the invention being claimed being capable of having its channels lead a filtered liquid to openings in a filtering element used therewith. Lumsden discloses the filter cloth being

Art Unit: 1723

arranged such that the channels formed in a bottom portion of the cloth are directed according to a structure of the filtering module (Fig. 11).

Regarding Claim 11, Lumsden discloses a solid-liquid separation filtering apparatus, comprising: a filtering module (#19); and a filtering element (#12), wherein the filtering module is arranged on a filtering element as a filtering surface where liquid is separated from a mixture consisting of solids and liquid where the filtering module is made of a filter cloth comprising a filtering layer composed of yarns (#65, 66) in the transverse and the longitudinal directions, and an underside of the filter cloth comprises substantially parallel yarns that are thicker (#66) than the rest of the yarns of the cloth, and that the thicker yarns are placed at predetermined intervals defined by the other yarns of the filter cloth extending parallel thereto to provide desired parallel channels therebetween (Fig. 11).

Regarding Claim 12, Lumsden discloses the filter cloth being arranged such that the channels formed in a bottom portion of the cloth are directed according to a structure of the filtering module (Fig. 11).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lumsden as applied to Claim 1 above, and further in view of Verpoest, U.S. Patent No. 6,184,161 B1.

Regarding Claim 2, Lumsden discloses that the thicker yarns (#66) are monofilaments but does not disclose multifilaments moulded at the thicker yarns. Verpoest teaches a filter cloth (Col. 4, Lines 54-60) comprising thicker yarns being monofilaments and multifilaments forming a denser cloth at the thicker yarns (Fig. 1, 2, 4, and 6). It would have been obvious to one of ordinary skill in the art to modify Lumsden with the element of Verpoest in order to provide high stiffness (Col. 1, Lines 55-62). Furthermore, determination of patentability in "product by process" claims is based on product itself. In re Thorpe, 227 USDQ 964 (1985). The manufacturing method of Verpoest is deemed to be a structure alternative to the molding process.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lumsden as applied to Claim 1 above, and further in view of Janovac, U.S. Patent No. 4,491,517.

Regarding Claim 3, Lumsden does not disclose the diameter difference of the yarns. Janovac teaches a filter cloth wherein the thicker yarns are $1\frac{1}{2}$ to $2\frac{1}{2}$ times the diameter of the other wires (Col. 2, Lines 1-3). One of skill in the art would by routine experimentation find the optimum diameter difference. It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art. In re Aller, 105 USPQ 233, 235 (CCPA 1955).

8. Claims 5, 10, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lumsden as applied to Claims 1, 7, and 11 above, and further in view of Pedersen, U.S. Patent No. 4,022,596.

Regarding Claims 5, 10, and 14, Lumsden does not disclose that the yarns are heat-shrinkable. Pedersen teaches yarns which are heat-shrinkable (Col. 2, Lines 28-37). It would

Art Unit: 1723

have been obvious to one of ordinary skill in the art to modify Lumsden with the element Pedersen for subsequent formation of the yarns into the desired final configuration of treating material (Col. 2, Lines 32-37).

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lumsden as applied to Claim 1 above, and further in view of Oksanen et al., U.S. Patent No. 6,787,492 B2.

Regarding Claim 6, Lumsden does not disclose batt needed to the filtering portion. Oksanen teaches batt needed to the filter cloth (Col. 4, Lines 24-30). It would have been obvious to one of ordinary skill in the art to modify Lumsden with the element of Oksanen in order to provide a protective layer (Col. 4, Lines 24-30).

10. Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derrick, Jr. et al, U.S. Patent No. 5,211,008 in view of Lumsden.

Regarding Claim 11, Derrick discloses a solid-liquid separation filtering apparatus, comprising: a filtering module (#24-27); and a filtering element (#11), wherein the filtering module is arranged on a filtering element as a filtering surface where liquid is separated from a mixture consisting of solids and liquid where the filtering module is made of a filter cloth (#24-27) comprising a filtering layer composed of yarns in the transverse and the longitudinal directions. However, Derrick does not disclose a thicker yarn forming channels therebetween. Lumsden teaches that an underside of the filter cloth comprises substantially parallel yarns that are thicker (#66) than the rest of the yarns of the cloth, and that the thicker yarns are placed at predetermined intervals defined by the other yarns of the filter cloth extending parallel thereto to provide desired parallel channels therebetween (Fig. 11). It would have been obvious to one of

Art Unit: 1723

ordinary skill in the art to modify Derrick with the element of Lumsden because they are both solid-liquid separating filter cloths.

Regarding Claim 13, Derrick in view of Lumsden discloses the filter cloth being arranged such that the channels formed in a bottom portion of the cloth ('138, Fig. 11) are directed to lead the liquid to openings ('008, #19) in the filtering element.

Response to Arguments

11. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Lumsden in view of Verpoest, Janovac, Pedersen, and Oksanen and Derrick in view of Lumsden teach the invention as claimed.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yoon-Young Kim whose telephone number is (571) 272-2240. The examiner can normally be reached on 8:30-4:30, Mon-Fri.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on (571) 272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1723

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YK

03/09/06


JOHN KIM
Primary PATENT EXAMINER